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MISSILE-X PROGRAM LOGISTIC ELEMENT MANAGEMENT PLAN FOR SUPPORT --ETC(U)

AUG 77 A N WINTER, A J FREMER

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MISSILE-X PROGRAM
LOGISTIC ELEMENT MANAGEMENT PLAN
FOR
SUPPORT AND TEST EQUIPMENT LEM

15 August 1977

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Prepared for
DEPARTMENT OF THE AIR FORCE
SPACE AND MISSILE SYSTEMS ORGANIZATION (AFSC)
ICBM Program Office

Under Contract F04606-76-A-0087-R901

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FOR
SUPPORT AND TEST EQUIPMENT LEM.

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One of 12 LEM Plans
Prepared for

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LOGISTIC ELEMENT MANAGEMENT PLAN
FOR
SUPPORT AND TEST EQUIPMENT LEM**

15 August 1977



**SPACE AND MISSILE SYSTEMS ORGANIZATION
AIR FORCE SYSTEMS COMMAND**

**Prepared by
Logistics (MNL)
Deputy for Intercontinental Ballistic Missiles**

MISSILE-X PROGRAM
LOGISTIC ELEMENT MANAGEMENT PLAN
FOR
SUPPORT AND TEST EQUIPMENT LEM

15 August 1977



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FOREWORD

This Support and Test Equipment Logistic Element Management Plan is one of twelve plans supplementing the guidance and direction for the Integrated Logistic Support (ILS) program as delineated in the Missile-X Integrated Logistic Support Plan (ILSP). Whereas the ILSP provides general guidance and direction for integrating all logistic elements into the overall program requirements, this plan treats the specific actions, milestones, and coordination efforts of the Logistic Element Manager for Support and Test Equipment (SE-LEM). It has been written to assist him in fulfilling his responsibilities toward achieving the ILS objectives of the MX Program.

The majority of information contained in Sections 1 through 4 herein is common to all plans. Sections 5 and 6 present information pertinent to the SE-LEM's efforts.

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1 INTRODUCTION

1.1 BACKGROUND

In accordance with DoD Directive 4100.35, the promulgating authority of AFR 800-8, and the guidance provided by AFP 800-7, the MX Program Office has implemented an Integrated Logistic Support program for the MX Weapon System. The ILS program, as delineated in the Integrated Logistic Support Plan (ILSP), is intended to ensure that the weapon system is designed with due consideration given to its supportability and that the required support will be attained within an affordable, minimum life cycle cost.

For the MX System, logistic elements – areas of support activity that collectively comprise the management concept of ILS – have been defined. These are:

- Maintainability Interface (M)
- Reliability Interface (R)
- Nuclear Hardness and Survivability Interface (NH&S)
- Maintenance Planning (MP)
- Support and Test Equipment (SE)
- Supply Support (SS)
- Transportation and Packaging (T&P)
- Technical Data (TD)
- Support Facilities (SF)
- Personnel and Training (P&T)
- Logistic Support Management Information (LSMI)
- Logistic Support Resource Funds (LSRF)

For each area of support activity, the MX Program Office has designated a *logistic element manager (LEM)* responsible for managing the accomplishment of the tasks associated with his element.

1.2 PURPOSE

This document is a Logistic Element Management Plan for the Support and Test Equipment element. It has been written to provide the SE-LEM with guidance in managing that element and ensuring the integration of ILS support and test equipment requirements into the system design process. This plan, and those developed for the other eleven logistic elements, will become supplementary documents to the ILSP.

1.3 MX PROGRAM

The MX Program has been implemented to provide the technology base for the development of an improved land-based strategic missile weapon system. Efforts are being directed toward the design, development, and deployment of an ICBM system within one of two nuclear hardened, multiple aim point (MAP) basing alternatives. The two currently favored basing options are the buried-trench and shelter-based weapon systems.

Full scale development (FSD) of the MX Weapon System is divided into two major efforts: missile development, including the missile and canister; and weapon system development, which includes the MAP basing hardware, software, and facilities, and the integration of the missile/canister with these equipments and facilities.

2 SCOPE

This Logistic Element Management Plan structures the support and test equipment logistic requirements of the ILSP into identifiable responsibilities of the SE-LEM, and delineates the tasks associated with these responsibilities. The plan is applicable to the FSD phase of the MX Weapon System, with overlap to the preceding validation and system definition phases and succeeding production/deployment phases. The plan applies to all elements of the weapon system, including the air vehicle, support functions, and the selected basing option. In addition, this plan:

- a. Provides an overview of the MX Program management concept, and the LEMs' position in the management structure.
- b. Describes the ILS program and the function of the SE-LEM within that program.
- c. Describes the participation of the SE-LEM in the ILS Management Information System.
- d. Indicates the interdependencies among tasks and the coordination among all members of the Integrated Logistic Support Management Team (ILSMT), the project element officers (PEOs), and systems engineering.
- e. Presents a basic schedule for the performance of tasks by relating each task to the time frame of major program events.
- f. Indicates the interrelationships of the SE-LEM with the remaining logistic elements.

3

REFERENCE DOCUMENTS

The following document listing is provided as a reference source relating to the implementation of an ILS program and the Support and Test Equipment logistic element.

DoD Directive 4100.35	Development of Integrated Logistic Support for Systems/Equipment, 1 October 1970
DoD 4100.35G	Integrated Logistic Support Planning Guide for DoD Systems and Equipment, 15 October 1968
AFR 800-8	Integrated Logistic Support (ILS) Program for Systems and Equipment, 27 July 1972
AFR 800-12	Acquisition of Support Equipment, 20 May 1974
AFP 800-7	Integrated Logistic Support Implementation Guide for DoD Systems and Equipments, March 1972
MIL-STD-490	Specification Practices, Change 2, 18 May 1972
SAMSO Supplement to AFR 800-8	Integrated Logistic Support (ILS) Program for Systems and Equipment, 7 September 1976
ICBM PO ED 77-6	System Requirements Analysis Programs for the MX Weapon System, 24 May 1977
ICBM PO ED 77-3	ICBM Program Office Engineering Directive for the Integrated Test Plan for MX Weapon System, 22 June 1977
ILSP	Missile-X Integrated Logistic Support Plan, June 1977
PO Manual	ICBM PO Project Officers' Manual, 1 July 1976
SAMSO/MNL Publication	ILS Management Information System Report, 31 August 1977

PROGRAM MANAGEMENT

Management of the MX Weapon System Program is the responsibility of the ICBM Program Office. The Program Manager has the overall responsibility for acquisition and integration management of the program, and is supported by the following Directorates within the ICBM Program Office:

- Logistics
- Engineering
- System Acquisition Management Support
- Procurement and Production
- Deployment
- Program Control

The ICBM Program Office comprises a team of Air Force and contractor personnel. That office operates with a functionally decentralized organizational structure, which has resulted in the implementation of the Project Element Management System. In this system, the program is divided into a series of discrete, functional elements, each managed as an entity by a designated project element officer responsible for monitoring the technical, cost, and schedule performance of one or more MX associate contractors. No prime contractor will be designated for the MX Program. Rather, the ICBM Program Office will function as the system integrator.

4.1 ILS PROGRAM ORGANIZATION

4.1.1 Deputy Program Manager for Logistics

The Deputy Program Manager for Logistics (DPML) was assigned from HQ AFLC with the concurrence of the MX Program Manager, and serves as the focal point for MX logistics management. The DPML and his organization are an integral part of

the ICBM Program Office and form the Directorate of Logistics (MNL). Within the MX Program, it is the responsibility of the DPML to assure that:

- a. Continuous attention is given to logistic support posture and costs throughout the acquisition process.
- b. Tradeoff studies affecting system design are evaluated to determine their impact on supportability, life cycle cost, and operational requirements.
- c. All objectives of ILS are achieved for the MX Weapon System.

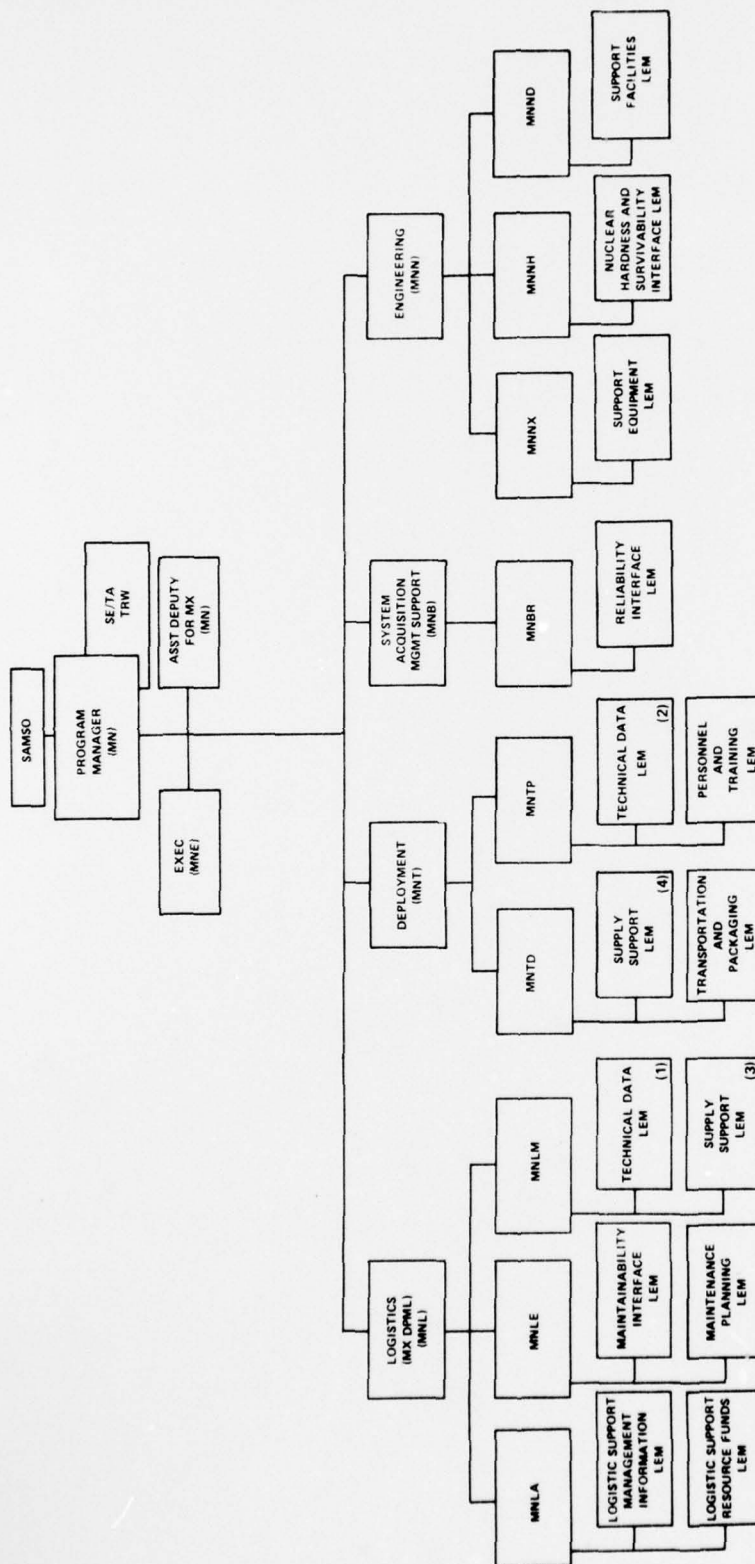
The DPML will draw upon the support of the designated logistic element managers to obtain timely contributions to those system design and support decisions which affect logistic support costs and effectiveness throughout the life of the system.

4.1.2 Logistic Element Managers

As discussed in paragraph 4, the Program Office operates with a functionally decentralized organization structure. This decentralization has positioned ILS elements (as defined by AFR 800-8) outside of the Logistics Directorate, in company with those engineering design elements (e.g., Reliability) normally external to the logistics organization. Logistic element managers have been designated within each functional logistic-related area. In addition, the Technical Data and Supply Support elements are further separated into subelements to gain maximum benefits from the decentralized organizational structure. The elements, by Directorate, are shown in Figure 4-1.

The manager for each element is the single point of contact for the DPML in the management of all logistic integration aspects of the assigned element. The LEM assures that the tasks associated with his element, as defined within this Logistic Element Management Plan, are accomplished. He provides liaison and coordination among the other logistic element managers as required for the achievement of integrated logistic support. He further assures that all relevant ILS data are collected, analyzed, reported, and disseminated, as appropriate, for his element.

Each LEM also plays a key role in supporting the Program Office's function as integrating agency of all associate contractor activities. The SE-LEM supports systems engineering and the PEOs by providing the management assistance needed to identify the contractual requirements relative to his element. In so doing,



SUBELEMENTS:
 (1) Engineering Data
 (2) Technical Orders
 (3) Operational
 (4) Prosoperational

Figure 4-1. MX Program Logistic Element Managers

he assures that a system integration approach is used in determining the requirements for each associate contractor. Due to the large number of associates involved, a significant coordination effort will be required by the LEM within his logistic element to maintain cognizance of the activities that impact on logistics.

Each LEM is a member of the Integrated Logistic Support Management Team, and through active participation as a team member he supports the DPML in managing the accomplishment of the Program Office's acquisition logistics tasks.

It is through the exchange of information at ILSMT meetings and the inter-relationships of LEMs that the DPML will acquire the program information necessary to assure the integration of logistic support elements into the total program requirements.

4.2 ILS MANAGEMENT INFORMATION SYSTEM

The ILS Management Information System was developed to assist the DPML and all logistic element managers in their efforts to achieve the logistic objectives of the MX Weapon System. Management and direction of the information systems' activities are the responsibility of the DPML. This responsibility is discharged primarily through his position as chairman of the ILSMT and of technical interchange meetings.

Successful implementation of the ILS MIS depends on each LEM's accomplishment of the tasks delineated in his LEM plan, through fulfilling his reporting responsibilities, and through active participation in the ILSMT.

The ILS Management Information System Report dated 31 August 1977 provides a complete description of the ILS MIS and the LEMs' role in implementing the system. Figure 4-2 depicts the information flow of the ILS MIS, and will serve as an aid in understanding the data input/output and coordination activities of the SE-LEM as defined in Sections 5 and 6 of this plan.

In general, much of the management information will involve estimates, or other planning data in which the quality of the data used will vary over some acceptable range. The criteria provided for use by the LEMs in describing the relative quality of MIS data are presented in tables within the Integrated Logistic Support Management Information System Report. Assistance to the LEMs for participating in the ILS MIS, as both contributor and user, will be provided by the Logistic Support Management Information LEM.

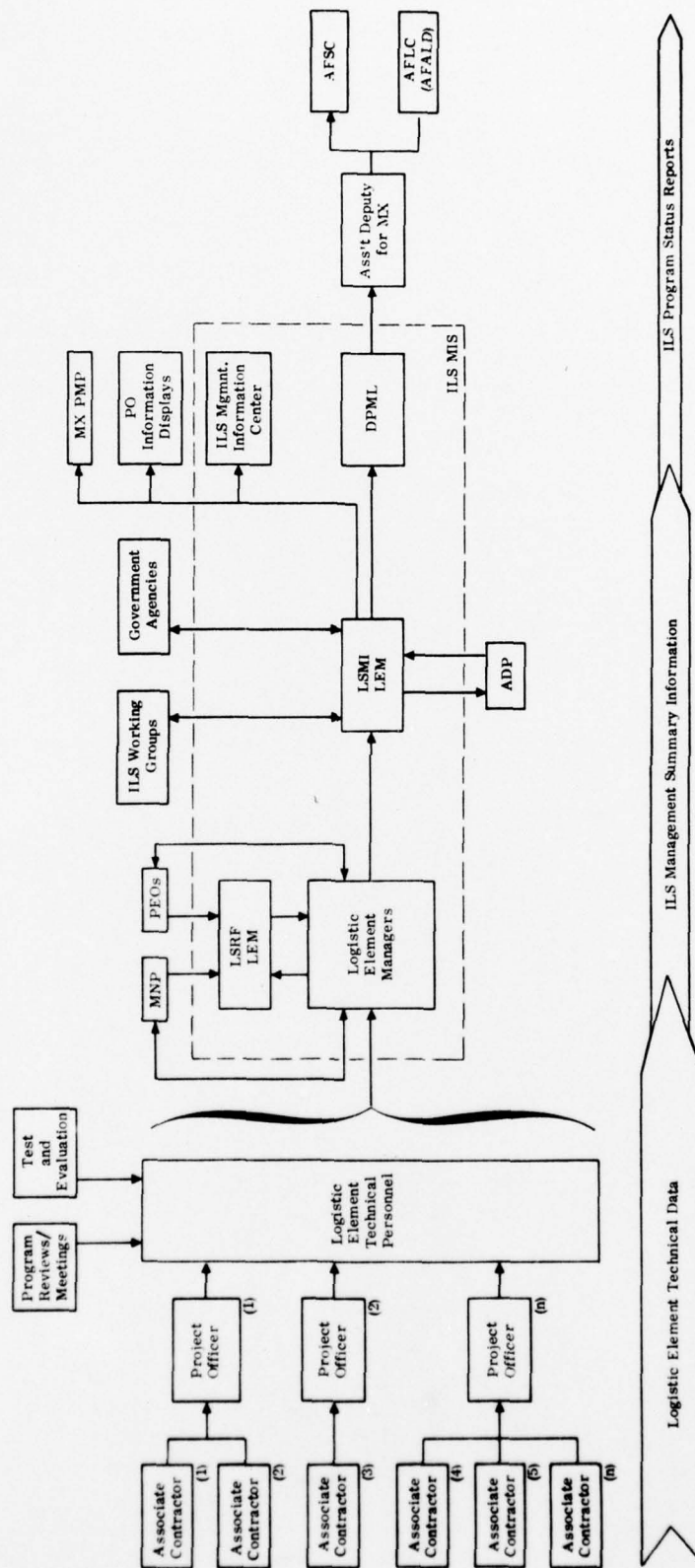


Figure 4-2. Information Flow of the ILS MIS

A typical schedule showing program events for the logistic element addressed in this plan is shown in Appendix C. This schedule depicts the general type of information required as input to the management information system for tracking the progress of each associate contractor in fulfilling the requirements for a specific logistic element. This type of information is also a prerequisite to the LEM's effort of tailoring the task schedule shown in Table 6-1 to each associate contractor's unique development activities.

5 GENERAL REQUIREMENTS

5.1 INTEGRATED LOGISTIC SUPPORT PROGRAM

Integrated Logistic Support is a concept that encompasses the total and timely support of a system/equipment, within acceptable life cycle cost criteria, for the duration of its useful life. Realization of this concept is achieved through planning and analysis tasks for the subsequent procurement of all required support as part of the total acquisition process.

An ILS program has been implemented for the MX Weapon System to assure that the ILS concept impacts the system design process in a manner that will improve supportability and control O&S costs. Within the ILS program, logistic elements have been identified (see paragraph 1.1). These elements are areas of support activity which, when collectively considered, provide the basis for the acquisition of the human, material, and financial resources required to maintain a system in an acceptable state of operational readiness within affordable cost criteria.

Essentials of the ILS program include the analysis and definition of quantitative and qualitative logistic support requirements; the prediction of logistic support costs; and the performance of tradeoff studies and evaluations. The responsibility for performance of these efforts rests with the ICBM Program Office and its supporting directorates. However, the responsibility for monitoring and assuring the accomplishment of these efforts has been assigned to the logistic element managers. Each Logistic Element Management Plan delineates the detailed areas of responsibility for a specific LEM.

Figure 5-1 depicts the information flow among the various LEMs during the performance of their ILS efforts. While the information flow will primarily be in the direction indicated by the arrows in that diagram, situations will arise where information must be passed in both directions. Additionally, the information flow might be influenced by variations in logistic information requirements among the configuration end items. Figure 5-1a (inset in Figure 5-1) indicates that the impact of the ILS concept on the system design is achieved through the logistic support analysis efforts.

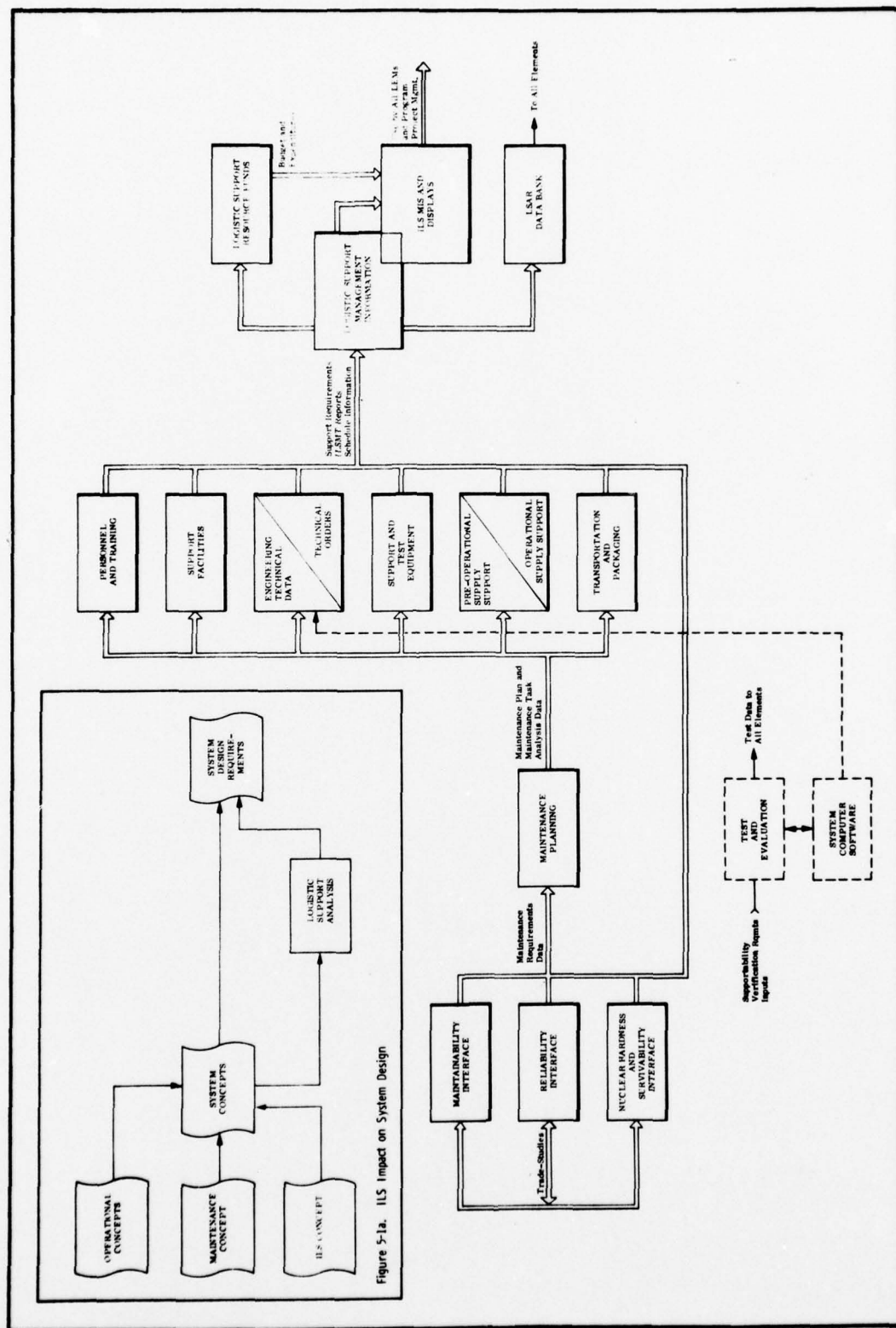


Figure 5-1. Primary Interface Relationships of Logistic Elements

5.2 SUPPORT AND TEST EQUIPMENT LOGISTIC ELEMENT

The Support and Test Equipment element encompasses those activities necessary to assure the timely availability of the required support and test equipment at maintenance activities and operational organizations. Such equipment includes tools, metrology and calibration equipment, performance monitoring and fault isolation equipment, and handling devices, both 1) peculiar to the system under development, and 2) commercially available or currently in the defense inventory.

As a logistic element, the Support and Test Equipment efforts comprise those activities required to assure that the impact of SE on logistics is identified, evaluated, and documented. The primary effort that develops information applicable to this activity is logistic support analysis (LSA), which provides the basic identification of support and test equipment requirements at all levels of repair. Since a major constraint on support and test equipment requirements is the Standardization Program required by MIL-STD-680, the LSA must also identify usable existing equipment so that development of peculiar equipment is held to a minimum.

A specific data source in the determination of equipment needs is the maintenance task analysis (part of the LSA process), which also defines the skill levels necessary to operate and maintain the equipment. Data applicable to the SE element that results from the LSA include complete equipment identification; maintenance level at which the equipment is required; quantity of equipment needed per organization per operating location; equipment function and capability; calibration requirements; and spares and repair part lists for the support and test equipment. The SE-LEM will implement a variety of tasks to assure that support and test equipment requirements are fulfilled for the MX Weapon System. He will develop a schedule of these assurance tasks for each FSD contract.

Primary interface relationships of the SE element with other logistic support elements of the MX Program include the following:

- a. SE may either induce or be unable to detect faults in the hardware. Both of these cases will impact the Reliability, Maintainability, and NH&S elements.
- b. If the SE does not meet requirements determined during optimum repair level analysis and maintenance task analysis, the Maintenance Planning element can be affected.

- c. SE will have an impact on support facilities, in that adequate space, power, lighting, hoists, heating/air conditioning, etc., must be provided.

Technical Data and Personnel and Training may have indirect relationships with SE. Unclear procedures or inadequate training could degrade the capabilities of the support and test equipment. These relationships may vary among the FSD contracts depending upon the system/equipment being procured. However, the flow of information to and from the Logistic Support Management Information element will be common to all elements.

In the performance of his assurance functions, the SE-LEM will coordinate, as necessary, with PEOs, OPRs, systems engineering, and other LEMs. Additionally, in areas such as test and evaluation and software support that do not have LEM representation, coordination may be required with POs. His membership in the ILSMT will require the preparation of status reports, the initiation of problem/impact statements, the development of schedule information for the MIS, and the resolution of assigned action items.

SE-LEM RESPONSIBILITIES AND TASKS

6.1 RESPONSIBILITIES

The Support and Test Equipment LEM assists the Deputy Program Manager for Logistics in assuring that the support and test equipment aspects of the ILS program are established and achieved. He assures that consideration of such equipment is an integral part of the system/equipment design process. The SE-LEM's responsibilities include:

- a. Coordinating the Support and Test Equipment element of logistics for the MX Program
- b. Serving as the SE point of contact for MX logistic support analysis (LSA)
- c. Ensuring that the interface compatibility of support and test equipment with each item of prime mission hardware supported is specified and evaluated
- d. Assuring that support and test equipment requirements are unique, and that hardware in the government inventory do not fulfill these requirements
- e. Assuring that standardization requirements for support and test equipment are established
- f. Assuring that criteria are developed for making cost-effective decisions concerning the manufacture of selected support equipment and hand tools
- g. Acting as the SE representative to the Integrated Logistic Support Management Team.

6.2 MANAGEMENT TASKS

The scope of each task identified in this plan must be tailored by the SE-LEM for each specific procurement. Consequently, the applicable data items and the degree of coordination activities will vary with the scope of the task.

While the tasks identified below are intended to be comprehensive relative to the scope of the SE-LEM's responsibilities, additional tasks may become apparent

during the implementation of this plan. The LEM is responsible for assuring that these new tasks are planned and scheduled for each applicable procurement. The new tasks should be documented, this plan updated as applicable, and the appropriate information provided to the LSMI-LEM for updating the MIS and its information displays.

The following paragraphs describe the tasks to be performed. Table 6-1 (see paragraph 6.3) presents a task summary and indicates by the respective columns of the table the applicable data items, expected coordination required for the tasks, and a schedule relating tasks to major program events.

- Task 1

Assure that the Support and Test Equipment Development and Acquisition Plan is prepared/updated. The SE-LEM coordinates with systems engineering and the OPR for the plan to track its status. A review of the plan may be necessary to verify that it satisfies the support and test equipment concept developed for the MX Weapon System.

- Task 2

Assure that support and test equipment requirements are developed for each configuration end item (CEI) procurement. Through close liaison with each PEO, systems engineering, and the R-, M-, MP-, and NH&S-LEMs, the SE-LEM will determine that AFSC form 40s have been developed, that support and test equipment requirements have been identified, and that these requirements are reflected in the statement of work (SOW) for each procurement package. The SE-LEM may inspect applicable portions of these documents to assure that the required information is included.

- Task 3

Assure that Government-furnished equipment (GFE) that fulfills support and test equipment requirements is identified. The SE-LEM coordinates with each PEO and with systems engineering to determine that the support and test equipment in the defense inventory that meets SE requirements has been identified and that this equipment will be acquired as GFE. He should also ensure that each set of contractor-developed support and test equipment requirements will be reviewed to ascertain if items in the inventory can fulfill these requirements.

- Task 4

Assure that CEI proposals are evaluated relative to their approach to identifying and developing unique support and test equipment. The SE-LEM coordinates with each PEO and systems engineering to establish that review criteria have been developed to evaluate each proposal with respect to the logistic element of SE; that each bidder's proposal addresses the element in accordance with the SOW; and that the degree of compliance with the SOW has been determined. The LEM may assist in this effort by providing inputs to the proposal evaluation criteria for the SE element. He may also examine the results of the proposal review effort to verify that appropriate review criteria have been applied.

- Task 5

Assure that contractor-prepared support and test equipment development plans are reviewed and approved. These plans may be required as part of the proposals or may be specific deliverables under the terms of the contracts. In the former case they would be evaluated as part of contractor proposals (see Task 4). In the latter case they would be evaluated against the information specified on the contract data requirements list (CDRL) and applicable data item descriptions (DIDs). In either case, the SE-LEM coordinates with the PEO and systems engineering to determine that review criteria have been developed and that the plans conform to their established requirements. The SE-LEM may examine the plan evaluation results to ensure that the review criteria for this logistic element have been applied.

- Task 6

Assure that Air Force- and contractor-developed documentation for support and test equipment are reviewed, evaluated, and approved. In performing this task the SE-LEM will verify that demonstration plans are reviewed and approved; that the results of design reviews and audits are assessed and any deficiencies corrected; that data resulting from demonstration tests show compliance with requirements; and that LSAR data sheets covering the SE element are prepared, evaluated, and approved. Additionally he will verify that technical data are developed and approved for SE operations and maintenance; and that unique metrology and calibration capabilities are identified for the support and test equipment. The SE-LEM coordinates with each PEO, systems engineering, the T&E PO, and the R-, M-, MP-, and TD-LEMs as

appropriate in implementing these assurance functions. The SE-LEM may review/inspect the applicable documentation to ascertain that the pertinent information has been developed.

- Task 7

Assure that first article reviews of support and test equipment are performed. The SE-LEM will coordinate with the PEO and systems engineering to ensure that these reviews are conducted as part of the configuration audits for each item of equipment. The SE-LEM may examine selected documents to verify that these reviews were performed and that discrepancies or deficiencies have been corrected.

- Task 8

Assure that the design, development, and production efforts for unique support and test equipment keep pace with weapon system development. This task requires that the SE-LEM track the progress of support and test equipment to verify that delivery schedules are compatible with hardware availabilities. The SE-LEM will coordinate with each PEO and systems engineering in implementing this assurance function. Schedules for hardware and support and test equipment must be checked periodically to ensure timely deliveries of SE with respect to CEI test and checkout.

- Task 9

Assure that detailed production specifications for support and test equipment are developed/reviewed/approved. These specifications will be CDRL items prepared by contractors developing the support and test equipment. The SE-LEM coordinates with each PEO and systems engineering in implementing this effort and tracking the status of the specifications. The SE-LEM may inspect the documentation as necessary to ascertain their progress through the preparation cycle.

- Task 10

Support the preparation and updating of logistic documentation. The SE-LEM reviews/develops/updates support and test equipment information contained in or to be a part of MX program documents concerning ILS. The DPML will provide guidance for the performance of this effort. The documents involved include those developed both by the Logistics Directorate and other program groups. The SE-LEM will prepare, for each appropriate document, the logistic information pertaining to support and test

equipment. This task requires coordination with systems engineering, the OPRs for each document, and other LEMs as appropriate.

- Task 11

Assure that contractor-prepared deviations/waivers and engineering change proposals (ECPs) are evaluated for their impact on support and test equipment requirements. Deviations/waivers are usually requested when one or more requirements cannot be met for technical reasons. ECPs are used to accomplish design changes after a baseline design has been established. In both cases, evaluations must be performed to determine the potential effects either item may have on support and test equipment requirements. The SE-LEM determines that necessary reviews and analysis efforts associated with deviations/waivers have been performed and that any impacts on the SE logistic element have been identified. The SE-LEM coordinates with each PEO, systems engineering, and LEMs for other logistic elements as appropriate. It may be necessary for the SE-LEM to review reports that document the reviews and analysis efforts performed in evaluating requests for deviations/waivers and ECPs.

6.3 PREFACE TO TASK TABLE

Table 6-1 lists the tasks discussed in Section 6.2, together with the corresponding data items and coordination required in the performance of the tasks. The schedule shown in the table indicates the availability dates of data items relative to major program milestones. The SE-LEM will prepare a schedule for the completion of the tasks applicable to each configuration end item, using contract award dates as the basis for assigning calendar dates to each schedule.

TABLE 6-1. SUPPORT AND TEST EQUIPMENT LEM TASKS (Sheet 1 of 3)

Tasks	Applicable Data Items	Coordination	Milestone Schedule							
			RFP Release	Contract Award	SDR	PDR	CDR	FCA	T&E	Production Release
1. Assume that Support and Test Equipment Development and Acquisition Plan is prepared and updated.	1. Support and test equipment concepts 2. Acquisition philosophy for MX Weapon System	Systems engineering; OPR for plan	△	△						
2. Assume that support and test equipment requirements are developed for each configuration end item (CEI) procurement.	AFSC form 40	Systems engineering; R-, M-, MP-, and NH&S-LEMs; each PEO	△							
3. Assume that Government-furnished equipment that fulfill support and test equipment requirements are identified.	GFE screening criteria	Systems engineering; each PEO	Initial List △	△						
4. Assume that CEI proposals are evaluated for their approach to identifying and developing unique support and test equipment.	1. Contractor proposals 2. SOW tasks	Systems engineering; each PEO	△							
5. Assume that contractor-prepared support and test equipment development plans are reviewed and approved.	1. AGE Plan (A-3014/M) 2. GSE Plan (A-6012)	Systems engineering; each PEO		CA 90D △						
6. Assume that Air Force and contractor-developed documentation for support and test equipment are reviewed/evaluated/approved. Subtasks include: a. Assume that plans for the demonstration of support and test equipment adequacy are reviewed and approved. b. Assume that the results of design reviews and audits performed on support and test equipment are reviewed and evaluated, and that any discovered deficiencies are corrected.	Test requirements document (T-3734) 1. Engineering data (E-7013, -7014, -7015) 2. CI development specifications (E-3102A)	Systems engineering; each PEO; R-, M-, and MP-LEMs; T&E PO Systems engineering; each PEO								

180D CDR

30D SDR 30D PDR 30D CDR

TABLE 6-1. SUPPORT AND TEST EQUIPMENT LEM TASKS (Sheet 2 of 3)

Tasks	Applicable Data Items	Coordination	Milestone Schedule							
			RFP Release	Contract Award	SDR	PIR	CDR	FCA	T&E	Production Release
6. (Cont)										
c. Assure that the data resulting from support and test equipment demonstration tests are reviewed and evaluated for compliance with requirements.	Test reports (T-371/M)	Systems engineering; each PEO, T&E PO					Test 30D			
d. Assure that technical data are developed to provide instructions for the use, maintenance and operation of the support and test equipment, and that these data are validated/verified.	1. CI production spec (E-3103A) 2. Development Program Manuals (H-3413M) 3. SRA	Systems engineering; each PEO, TD-LEMs								
e. Assure that unique metrology and calibration capabilities are identified and defined for the maintenance and operation of the support and test equipment.	Calibration/Measurement Requirements Summary (S-6177)	Systems engineering; each PEO								
f. Assure that applicable LSAR data sheets covering support and test equipment requirements are prepared/evaluated/approved.	1. LSAR 2. SRA	Systems engineering; each PEO								
7. Assure that first article reviews of support and test equipment are performed.	1. Engineering data (E-7013, -7014, -7015) 2. Configuration audits and demonstrations (E-3118)	Systems engineering; each PEO								
8. Assure that the design, development, and production efforts for unique support and test equipment keep pace with weapon system development.	1. Consolidated AGE List (V-3804/V) 2. Consolidated GSE List (V-6183) 3. Tools and test equipment list (V-7007) 4. GSE delivery schedule/delinquency report (P-6165)	Systems engineering; each PEO								

TABLE 6-1. SUPPORT AND TEST EQUIPMENT LEM TASKS (Sheet 3 of 3)

Milestone Schedule			
Tasks	Applicable Data Items	Coordination	RFP Release Contract Award SDR PDR CDR 30D CDR FCA T&E Production Release
9. Assure that detailed production specifications for support and test equipment are developed/reviewed/approved.	CI production spec (E-3103A)	Systems engineering; each PEO	
10. Support the preparation/update of logistic documentation.	<ol style="list-style-type: none"> ILSP Maintenance concept ITP SE-LEM Plan 	<ol style="list-style-type: none"> Systems engineering; OPR for each document; applicable LEMs 	As required
11. Assure that contractor-prepared deviations/waivers and engineering change proposals are evaluated for their impact on support and test equipment requirements.	<ol style="list-style-type: none"> Deviation/Waiver request (E-3129/M) ECTs (E-3128/M) 	Systems engineering; each PEO; applicable LEMs	As required

APPENDIXES

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Appendix C: Logistic Element Schedule for Support and Test Equipment . .	C-1

APPENDIX A

MISSILE-X PROGRAM LOGISTIC ELEMENT MANAGER DIRECTORY Col. L.E. Eklund, DPML				
Logistic Element	Manager	Code	Ext.	Room
Reliability Interface	Capt. T.M. Palmer	MNBR	5359	421
Maintainability Interface	Capt. A.D. Wadsworth	MNLE	4523	619
Nuclear Hardness and Survivability Interface	Capt. W.R. Jacobs	MNNH	7843	711
Maintenance Planning	Lt. Col. R.W. Ayars	MNLE	4523	619
Support Equipment	Lt. Col. B.W. Woolverton	MNNX	7005	138
Supply Support (Preoperational)	Mr. F.C. O'Connor	MNTD	6481	600
Supply Support (Operational)	Mr. J.A. Davidson	MNLM	5321	621
Transportation and Packaging	Mr. R.W. Riggs	MNTD	5474	600
Technical Data (Engineering)	Mr. L.E. Onstott	MNLM	5321	621
Technical Data (Technical Orders)	Maj. L.W. Cooper	MNTP	6684	609
Support Facilities	Mr. F.E. Longan	MNND	6891	408
Personnel and Training	Maj. L.W. Cooper	MNTP	6684	609
Logistic Support Resource Funds	Capt. H.B. Robbins	MNLA	5395	623
Logistic Support Management Information	Mr. J.L. Peterson	MNLA	5386	623

APPENDIX B
ACRONYMS AND ABBREVIATIONS

A&CO — Assembly and Checkout
ADP — Automatic Data Processing
AFALD — Air Force Acquisition Logistics Division
AFLC — Air Force Logistics Command
AFSC — Air Force Systems Command
AFTEC — Air Force Test and Evaluation Center
BTWS — Buried Trench Weapon System
C/A — Contract Award
CDR — Critical Design Review
CDRL — Contract Data Requirements List
CDRS — Contract Data Requirements Substantiation
CDSR — Cost Data Summary Report
CEI — Configuration End Item
CFSR — Contract Funds Status Report
CPR — Cost Performance Report
DPML — Deputy Program Manager for Logistics
DT&E — Development Test and Evaluation
FCA — Functional Configuration Audit
FCHR — Functional Cost Hour Report
FMA — Failure Mode Analysis
FSD — Full Scale Development
ICBM — Intercontinental Ballistic Missile
IOT&E — Initial Operational Test and Evaluation
ILS — Integrated Logistic Support
ILSMT — Integrated Logistic Support Management Team
ILSP — Integrated Logistic Support Plan
ISP — Integrated Support Plan
ITP — Integrated Test Plan
LEM — Logistic Element Manager

LSA	— Logistic Support Analysis
LSAR	— Logistic Support Analysis Record
MDR	— Missile Design Review
MIC	— Management Information Center
MIS	— Management Information System
MPP	— Maintainability Program Plan
MTBF	— Mean Time Between Failures
MTTR	— Mean Time to Repair
MX	— Missile-X
OPR	— Office of Primary Responsibility
OT&E	— Operational Test and Evaluation
PCA	— Physical Configuration Audit
PDR	— Preliminary Design Review
PEO	— Project Element Officer
PMP	— Program Management Plan
PO	— Project Officer
RPP	— Reliability Program Plan
SAMSO	— Space and Missile Systems Organization
SBWS	— Shelter Based Weapon System
SDR	— System Design Review
SOW	— Statement of Work
SRA	— System Requirements Analysis
T&E	— Test and Evaluation
TI	— Technical Interchange
TPA	— Test Planning Analysis

SUPPORT AND TEST EQUIPMENT ELEMENT SCHEDULE

C-1

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The majority of information contained in Sections 1 through 4 herein is common to all plans. Sections 5 and 6 present information pertinent to the SE-LEM's efforts.

This report and Test Equipment Location Management Plan is one of twelve plans supporting the guidance and direction for the Integrated Joint-Port (IJP) program as delineated in the Mission-Related Integrated Joint-Port Plan. Location Management Plan is the overall program requirements, this plan creates the specific actions, milestones, and coordination efforts of the IJP. The IJP is a joint effort of the SE-LEM, IJP, and Test Equipment Location Management Plan. It has been written to assist the IJP in fulfilling its responsibilities toward achieving the IJP objectives.

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